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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/764,112	01/19/2001	Sang Mun Lee	8733.387.00	8135

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EXAMINER

PARKER, KENNETH

ART UNIT PAPER NUMBER

2871

DATE MAILED: 08/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/764,112

Applicant(s)

LEE ET AL.

Examiner

Kenneth A Parker

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10-17 is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☒ Claim(s) 2,3-9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al 5359449 in view of Nakamura et al 5835181 and Inoue et al 6285435 , Hida et al, 5936695 and Oshima et al, 5725032.

Lacking from the liquid crystal remover, the sealer by UV, and the conveying apparatus being an elevator. The remover was conventional for the benefit of cleaning as evidenced by Nakamura Inoue as recited below. Therefore, it would have been obvious to those of ordinary skill to employ a "liquid crystal remover" for the benefit of cleaning the cell.

After the filling step, the pressures at the respective parts of the cell 1 are restored to the atmospheric pressure, the cell is cooled to room temperature, and an excessive liquid crystal attached to the first and second apertures is removed by wiping with a cloth or by washing with a solvent of, e.g., ketone-type, such as acetone or methyl ethyl ketone. Thereafter, the apertures are sealed with a sealing agent (e.g., epoxy resin) similar to the sealing agent 10.

And Inoue:

The primary causes of such bubbles 209 being left are: volume contraction of the polymer dispersed liquid crystals 207 solidifying concomitantly with phase separation of mixture 205; and an inability to coat seal resin 6 to the inside of recesses 209, which are formed on the surface of mixture 205 contacting seal resin 206 by bubbles 209 as shown by the imaginary line in FIG. 22, as a result of even mixture 205 inside injection opening 203a being wiped away when the area

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around injection opening 203a is cleaned by wiping with a cloth before applying seal resin 206.

UV light for sealing is also not taught by the primary reference but was well known as not requiring heating as evidenced by Hida et al (column 7 and 8, lines 25-40 each), and would have been obvious for that reason. Therefore, it would have been obvious to those of ordinary skill to employ a "sealer" for the benefit of sealing the cell without requiring heating.

The Tanaka reference shows that the liquid crystal and the resevoir need to be moved vertically relative to each other, but it is not clear that the liquid crystal is raised or lowered. The reference Oshima shows that with such systems either the cells or the resevoir can be moved (col. 3, lines 30-39), showing that the two were functionally equivalent alternatives. Therefore, it would have been obvious to those of ordinary skill to employ a the liquid crystal cells moved (therefore the conveyor would be an elevator) as opposed to the resevoir moved as the two were well known functionally equivalent alternatives, and thefore the moving of the cells functions equally well.

Loading, heating and injecting are all done

Allowable Subject Matter

Claims 2-9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim.

Claims 10-17 are allowed.

Response to Arguments

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

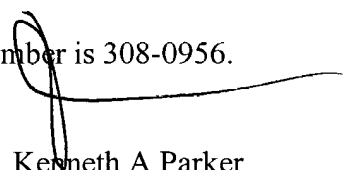
Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth A Parker whose telephone number is 703-305-6202. The examiner can normally be reached on 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 305-3492. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-0956.



Kenneth A Parker
Primary Examiner
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August 5, 2003